Bridging the Gap: Utilizing Artificial Intelligence to Advance Traditional Persian Medicine

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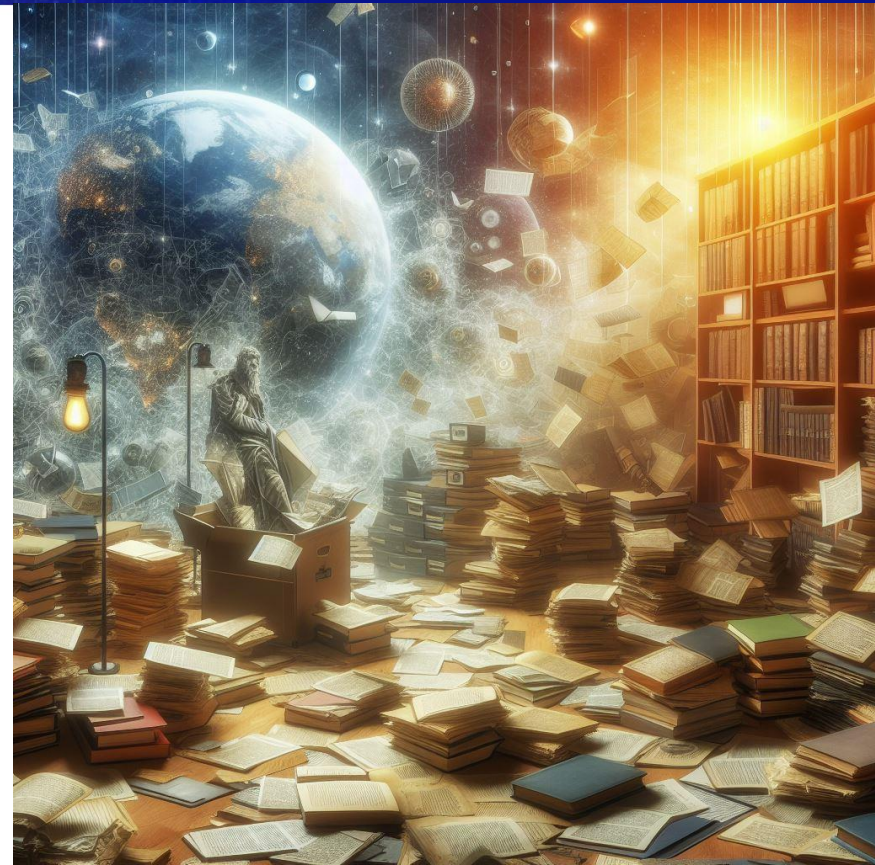**Assistant professor at Mashhad University of Medical Sciences**

- With a rich history dating back thousands of years

- Holistic approach to health

- Documented effectiveness in certain areas

- Disseminating vast knowledge base

- Standardizing practices

- Achieving widespread clinical validation

Artificial Intelligence: A Bridge to the Future

- Revolutionary capabilities in data analysis & pattern recognition
- Unique opportunity to address TPM limitations

The age of AI has begun !

- Natural Language Processing (NLP) analyzes historical texts
  - Example: By analyzing a large corpus of historical texts related to TPM, NLP can identify patterns in plant use and potential treatment recommendations.
- Creates a comprehensive digital library of TPM knowledge
- Improves access and understanding for practitioners & researchers

- Machine Learning analyzes patient data
- Identifies correlations between patient characteristics and treatment outcomes
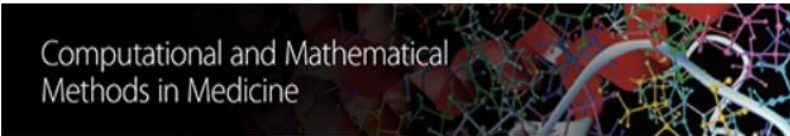- Leads to standardized practices and more effective treatment protocols

Benefits of Machine Learning in TPM

- **Personalized Treatment**: By understanding how patient characteristics influence treatment outcomes, practitioners can tailor TPM interventions to each individual for potentially improved efficacy.

- **Improved Treatment Protocols**: Insights from machine learning can inform the development of more standardized and evidence-based TPM treatment protocols.

- **Identification of Effective Interventions**: Machine learning can help identify which TPM interventions are most effective for specific health conditions based on real-world patient data.

An Ontology-Based Artificial Intelligence Model for Medicine Side-Effect Prediction: Taking Traditional Chinese Medicine as an Example

Yuanzhe Yao, [1] Zeheng Wang,✉ [1,2] Liang Li, [1] Kun Lu, [3] Runyu Liu, [1] Zhiyuan Liu, [1] and Jing Yan [4]

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- The research paper focuses on developing an ontology-based model for AI-assisted medicine side-effect prediction, combining traditional Chinese medicine (TCM) with artificial intelligence (AI) techniques.
  - The model consists of three main components:
    - The drug model
    - Treatment model
    - AI-assisted prediction model
  - It utilizes an artificial neural network (ANN) structure trained on 242 TCM prescriptions to predict side effects based on ontology-based attributions like "hot" and "cold"
- The results show promising potential in AI-assisted side-effect prediction, but the model's accuracy heavily relies on having sufficient clinical data, indicating the need for further exploration to enhance prediction accuracy

- AI analyzes vast databases of medicinal plants used in TPM

- Identifies promising candidates for further research and drug development

- Potential to discover novel therapeutic agents

- AI-powered clinical trials designed to evaluate TPM interventions

- Improved efficiency in research

- Paves the way for integration of evidence-based TPM into mainstream healthcare

- Understanding Patient Interactions
  - *AI can analyze vast datasets of patient information, including medical history, lifestyle habits, and social factors.*
- Predicting Treatment Side Effects
- Developing Personalized Wellness Plans

Conclusion

- AI offers a powerful toolkit to advance TPM

- Unlocking TPM's full potential for improved patient care

- Importance of addressing data quality, bias, and ethical considerations

تجربیات

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سوالات

Thank you for your attention!